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ABSTRACT

This study develops and examines a general exploratory model with the goal of identifying school-site variables which facilitate higher levels of teacher engagement in public secondary schools. Three sets of variables thought to contribute to teacher engagement are identified: individual teacher characteristics; school demographics, and organizational features of the school. Multiple regression is used to show the direct and indirect effects of these variables on teacher effectiveness. The school circumstances that affect teacher engagement and success include: (1) an orderly school environment; (2) manageable teaching tasks; (3) perceived student ability; (4) sense of community in the school; (5) teacher participation in decision making; (6) collaboration; and (7) staff recognition. (JD)

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FACILITATING TEACHER ENGAGEMENT

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High levels of teacher commitment and enthusiasm (engagement) are central to the success of our secondary schools (Carnegie Task Force on Teaching, 1986). Yet recent reports recount numerous examples of flat, passive, and unenthusiastic teaching (Boyer, 1983; Goodlad, 1984; Sizer, 1984). In recent years large numbers of highly qualified, enthusiastic, successful teachers have either left the profession, are planning to leave, or have stayed in teaching but have grown increasingly alienated and discontented (Farber, 1984; Rosenholtz, 1986; Lortie, 1986). Furthermore, the recruitment of new, more energetic, staff will probably not solve the problem of low teacher engagement because existing workplace conditions offer teachers few opportunities to utilize their expertise, achieve success, or gain recognition (Rosenholtz, 1986).

The need to revitalize our teaching force is critical. Lackluster teaching rarely, if ever, promotes student engagement or achievement (Sizer, 1984; Farber, 1984; Rosenholtz, 1986). The teacher who conveys disinterest, low commitment, and little enthusiasm for his or her work is likely to find students responding in kind. Teacher engagement, therefore, has important implications for student learning and retention.

In this study, we will develop and examine a general exploratory model with the goal of identifying school site levers which can be manipulated to facilitate higher levels of teacher engagement in public secondary schools. We begin by operationalizing teacher engagement and

identifying three sets of variables thought to contribute to it: individual teacher characteristics, school demographics, and organizational features of schools. Multiple regression will then be used to show the direct and indirect effects of selected teacher characteristics, school demographics, and organizational features on teacher engagement. Finally, these variables will be discussed as potential school site levers for facilitating higher levels of teacher engagement.

Engaged Teaching

When people stop to think about those teachers who most influenced their lives, they may think about teachers who conveyed a sense of enthusiasm for the content they were teaching, cared deeply about the success of their students, extended themselves beyond what was minimally required, knew their subject area well but were never afraid to admit they could learn more, took pride in their work, and conveyed an infectious sense of confidence and optimism. Intuitively, these characteristics describe engaged teaching.

Although space does not permit a lengthy review of the literature, a brief summary of some of the most salient findings may help the reader better understand what is meant by teacher engagement. Several authors define the broad parameters of engagement. Rosenholtz (1986), for example, speaks of commitment on the part of the teacher while Lieberman and Miller (1981) discuss sources of motivation. Berman and

McLaughlin (1980) stress a sense of mission while Bredesen, Fruth, and Kasten (1983) point to teachers' affect toward the job of teaching.

Because engaged teachers will draw many of their rewards from students, these teachers are concerned about delivering quality education (McLaughlin, et al, 1986). This concern is likely to be manifested in classroom practices as well as through their involvement in the school as a whole. Lieberman and Miller (1978) state that " [engaged] teachers constantly look for new ideas, new materials, new ways of reaching the students."

Many researchers have indicated that the way a teacher handles specific aspects of the job of teaching may reflect higher levels of motivation and commitment. Some examples are frequent monitoring of student progress (Weber, 1971; Madden, 1976), ease of accomplishing administrative chores (Carnegie Task Force on Teaching, 1986), and holding high expectations for all students and taking responsibility for student learning (Edmonds, 1979; Brookover, 1979).

The Carnegie Report (1986), Sizer (1984), Goodlad (1984), and many others place great importance on an engaged teacher's willingness to devote extra time to teaching duties. Attention to detail or extreme patience can also be evidence of this commitment (Wilson, 1982).

The literature makes it apparent that, while the behavioral aspects of engagement are vital, engagement may be better understood as a psychological state. While engagement can manifest itself in various

positive teacher behaviors, the behaviors alone do not constitute engagement. If we were to describe those engaged teachers we have all encountered, we would probably notice a wide variety of behaviors and general traits.

Two popular personalities may help to illustrate this point. John Houseman's "Professor Kingsly" and Leo Bascaglia offer portraits of engaged teaching but all would agree that their teaching behaviors differ markedly. Kingsly is gruff, demanding, arrogant, and distant, but succeeds in getting the very best from his students. Bascaglia projects energy, humor, and a sense of caring to convey to students his convictions about tolerance, empathy, and love.

Although certain behaviors (e.g. extra time spent on class preparation, time spent tutoring students) may be reasonably good indicators of engagement, teachers could conceivably be engaged without exhibiting any of these behaviors. Furthermore, an engaged teacher (e.g. Kingsly) may exhibit behaviors that might not normally be associated with high engagement (e.g. being gruff and distant).

It could also be argued that engaged teachers manifest the behaviors suggested in the previous pages because they hold certain positive attitudes toward students and education. For all of these reasons, operational definitions of engagement based exclusively on behavior are likely to be inadequate. Engaged teaching therefore must be said to reflect more deeply held predispositions toward one's work. The literature is informative on this point, suggesting that there are

attitudinal characteristics that separate the truly engaged teacher from those who are simply going through the motions.

For example, an engaged teacher believes that education is important and that his/her teaching can make a difference in the lives of students (Berman and McLaughlin, 1980; Lieberman and Miller, 1981). This belief, that their efforts really count, is essential for teachers to believe their work is meaningful (Rosenholtz, 1986). Lortie (1973) stated that without this sense of meaningfulness there is no cause for the inspired work that is the mark of an engaged teacher.

Researchers have stressed the importance of teacher involvement in the development of goals and standards to be applied to schools. Teacher involvement is important because the resulting goals will then reflect objectives that teachers feel are realistically possible (Lieberman and Miller, 1981) thereby increasing the teacher's acceptance of responsibility for the attainment of those goals (Rosenholtz, 1986; Berman and McLaughlin, 1980). The degree of self-confidence that a teacher feels has a strong effect on that individual's openness to change, the ability to accept constructive criticism without being defensive, and also his or her readiness to offer personal opinions and advice to others concerning their work.

Self-confidence is also reflected in the engaged teacher's feeling that he or she personally has something unique to offer as a teacher. If teachers feel that anybody could do as well as they, or if the outcomes of their efforts can be easily explained by outside forces,

they will have no cause for inspired work (Lortie, 1973; Dreeben, 1973). Assuming personal responsibility for student learning and feelings that "not just anyone could do my job" bring feelings of pride and accomplishment when students excel, but also disappointments and new challenges when students fail (Farber, 1984). Engaged teachers experience these inner feelings of pride or disappointment when their efforts are reflected by student performance. It is not at all uncommon for engaged teachers to cite as primary motivators human factors such as unique relationships, friendships with individual students, or feelings of personal accomplishment when students succeed (Goodlad, 1984; Rosenholtz, 1986).

Method

The Data

This study utilizes 1982 demographic data from a nationally drawn stratified probability sample of 1032 high schools called High School and Beyond (HSB) and survey data on teachers collected by the Consortium for the Study of Effective Secondary Schools in 1984.

Approximately half of the original HSB schools were selected by the National Center for Education Statistics (NCES) for supplemental data gathering by the consortium. The selection of these schools was intended to preserve, as much as possible, the original HSB sampling frame.

Random samples of up to 30 teachers were selected from among the eligible faculty in each school. In 139 of the schools, total eligible

faculty was 30 or fewer teachers. In these schools all teachers were included in the sample. In all, 10,370 teachers representing 482 of the original HSB schools returned completed questionnaires. Unless otherwise specified, the analyses contained herein are based on a subsample of about 8300 secondary school teachers in about 350 regular public schools nationwide. Variations in sample size between analyses reflect case deletions resulting from SPSS default conventions designed to handle missing data. Both data sets are available through NCES.

Operationalizing Teacher Engagement

Twenty-four items from the 1984 HSB Supplemental Teacher Survey were selected as possible indicators of engagement because they solicited information about attitudes and behaviors which the literature suggests may be characteristic of teacher engagement. For example, several of the items asked teachers how successful they felt in doing their work, how much time they spent helping students outside of class, how much acceptance and respect they felt from their colleagues, whether they held high expectations for their students, and whether they had changed their teaching practices in recent years. These items were thought to cluster as seven engagement dimensions.

A factor analysis using these 24 items produced seven factors as predicted: sense of efficacy/satisfaction, sense of integration into staff culture, expectations for student achievement, sense of control over classroom practices and procedures, instructional preparation time, time devoted to extended role contacts with students, and changes

in teaching practices and procedures. The seven dimensions included both psychological and behavioral dimensions. Individual item responses were added to form scale scores and inter-correlations were computed.

The inter-correlations (see table 1) showed that the four psychological dimensions had moderate to strong (.16-.42) correlations with one another, but the three behavioral dimensions did not correlate with the other four or with each other (except for a moderate correlation between the two time dimensions). Further consideration of this lead to the conclusion that since time is a finite commodity, the amount of time any teacher (engaged or not) can devote to working with students is limited and that what a teacher does with the time he or she spends in school is ultimately more important (and a better reflection of engagement) than how much additional time is spent in school related activity. It is equally plausible that engaged teachers are also engaged parents, engaged community members, engaged church members, and so on. As a result, the time these teachers devote to school may be no more than that of the typical teacher, but their level of engagement may be considerably higher.

The lack of a strong correlation between changes in teacher practices and procedures and the other variables may be attributable to the perception of many engaged veteran teachers that they have not changed their teaching radically in recent years. This seems most

likely to be true for teachers who adjust their teaching with great frequency as the result of continuous reflection and assessment.

By eliminating these behavioral dimensions we are left with an exclusively psychological definition of teacher engagement, but one which appears consistent with the research literature. For these analyses, we define engaged teachers as those who exhibit high levels of satisfaction and efficacy, feel integrated into the teacher culture of the school, hold high expectations for student achievement, and feel a sense of control over what goes on in the classroom. Individual items and reliabilities for each dimension can be found in appendix A.

Creating an Index of Engagement

To create an index of engagement, teacher responses to individual scale items (for each engagement dimension) were transformed to z-scores, weighted by their factor weights, and added to form scale scores. The four scale (dimension) scores were also converted to z-scores. An index of engagement was computed by giving each teacher 3 points for each scale z-score which was 1.00 or higher, 1 point for each scale z-score which was -1.00 or lower, and 2 points for each scale z-score between -1.00 and 1.00 range for all teachers. This index was also transformed into a z-score.[1]

Individual Teacher Characteristics

Based on previous research (summarized in Anderson, 1982), twelve individual teacher variables were thought to be related to teacher engagement. Included were sex, teacher race, total years of teaching

experience, years teaching in their present school, highest level of education completed, number of courses taken in the teacher's most frequently taught subject area, teacher income, non-class demands on teacher time, whether the teacher is teaching an academic or non-academic class, the academic ability of students in the classes they teach, class size, and number of hours assigned to teach.

Although seven of the twelve had statistically significant correlations with teacher engagement, none of the correlations were particularly robust (the significant correlations ranged from only about .04-.08). Further consideration of the seven variables with significant correlations lead to the conclusion that three of the variables (academic/non-academic, class size, and ability of students in classes taught) should not be regarded as teacher variables but as teacher working conditions alterable at the school site. A new variable called manageable teaching task, which includes these variables will be described later.

Educational attainment, income, non-class demands on teacher time, and hours required to teach were not correlated with engagement. At least three of these low correlations can probably be explained by the lack of variance in the independent variable. The lack of a relationship between income and engagement, however, is more difficult to explain, especially considering the attention given to raising teacher salaries as a way of improving teacher status and commitment.

Although the discovery of weak relationships between individual teacher variables and teacher engagement may have provided adequate justification for eliminating all individual teacher variables from later regression equations, in the final regression model, four individual teacher variables were preserved. The choice of these four (sex, race, total years teaching, and years teaching at ones present school) was based on the following 1.) weak but significant correlations were found for three of the four, 2.) independent support for these relationships could be found in the literature, and 3.) the possibility that one or more of these may be suppressor variables.

In general, finding weak correlations between this set of teacher characteristics and engagement is good news. These correlations suggest that engaged and non-engaged teachers may be found among blacks, whites, men, women, veterans, and beginners. Because characteristics like sex, race, and years of experience are not amenable to change, and because characteristics such as these do not appear inherently tied to engagement, there is reason to believe that the key to facilitating higher levels of teacher engagement lies elsewhere; perhaps in the working conditions teachers encounter at the school site.

Demographic Characteristics of Schools

We examined the relationship of five demographic characteristics of the teacher's school with engagement: school size (1982 enrollment), race (1982 percent white), percent disadvantaged (1982), urbanicity (urban, suburban, rural), and teacher perceptions (1984) of the

academic ability of students entering the school. Only school size failed to show a significant correlation with teacher engagement. Significant correlations for the other four variables ranged from -.10 for percent disadvantaged to .29 for student ability.

The magnitude of the relationship between student ability and engagement is noteworthy, but discussion of this will be postponed until later. Suffice it to say that student ability is one of the strongest predictors of teacher engagement, even after controlling for all other predictor variables. Taking the magnitude of this relationship into account, the statistically significant correlations between race (.14), percent disadvantaged (-.10), and teacher engagement could be explained in two ways a.) low student achievement leads to low teacher engagement or b.) greater numbers of minority or disadvantaged students leads to less teacher engagement.

In order to account for the possibility that school size would function as a suppressor variable, all five demographic characteristics of schools were included in the regression equations.

Organizational Features of Schools

Initially, we examined the relationship between 35 organizational features variables[2] and teacher engagement. In general, the organizational features variables showed moderate to strong statistically significant correlations with engagement. Notable exceptions were the four items related to academic goals, two items related to ethnic relations, and one item related to principal

leadership (getting resources). Because several items appeared to reflect similar dimensions, seven multi-item scales were created: orderly school environment, teacher input into decision-making, sense of community, encouragement of innovation, principal leadership, administrator responsiveness, and time devoted to staff development.

A eighth organizational feature, manageable teaching task, was created by combining three variables. The construction of this variable reflects the belief that teachers teaching an academic subject with large numbers of low ability students face a more difficult teaching task than teachers who work with smaller numbers of students, students with higher ability, or who teach in non-academic subject areas.

To create this variable, a teacher was given one point if he/she exceeded the mean for all teachers on class size by one standard deviation or more, 2 points if he/she fell within one standard deviation of the mean, and 3 points if he/she fell more than one standard deviation below the mean for all teachers on that variable. This was reversed for student ability in classes taught. In addition, teachers were given one point for teaching an academic subject and 3 points for teaching a non-academic subject. Teachers received a manageable teaching task score ranging from 3-9.

Four other organizational features are assessed with single items: staff recognition, in-service specific to staff needs, teachers helping each other to solve instructional or class management problems, and

collaboration. These items, the scales, the individual items included in each scale, and scale reliabilities are given in appendix B.

Constructing the Model

Exploratory analysis[3] began by randomly assigning the 8300 public secondary school teachers to one of two subsamples of approximately 4000 teachers. This was done so that one sample could be used for exploratory work while saving the second sample (an independent sample) for testing the model empirically derived from the first subsample. All variables except sex (male, female) and race (white, non-white) were transformed to z-scores to avoid inappropriate weighting as a result of variability in scale ranges.

Derivation of the model was accomplished in three steps. First, all of the selected individual teacher characteristics, school demographics, and organizational features were regressed on teacher engagement. It was hypothesized that each of these variables would contribute to teacher engagement directly. Six organizational features variables were found to have direct effects on teacher engagement. After those organizational features variables having direct effects on teacher engagement were identified, further hypotheses about indirect relationships between the remaining organizational features variables and teacher engagement were constructed and tested. A third and final model was constructed on the basis of these results.

It should be noted that all individual teacher characteristics and school demographic variables were included in every regression equation

so that the impact of any potential school site lever (direct or indirect) could be discussed independent of the influence of teacher and school characteristics. Loosely interpreted, this means that the indicated coefficients reflect the magnitude of the effect of any specific lever regardless of the age of the teaching staff, the size of the school, the ability of the student body, and so on.

The resulting model was tested on the second subsample with no modifications required. Finally, the equations were re-run for the sample of all public secondary school teachers (after deleting all non-significant organizational features variables). The resulting diagram appears in figure 1.

Results and Possible Explanations

School Site Levers

School site levers are those characteristics or features of schools which can be manipulated at the school site to increase teacher engagement. Although, in theory, any of the individual teacher characteristics, school demographics, or organizational features could be manipulated and therefore regarded as levers, some of these (notably certain individual teacher characteristics and school demographics) are less amenable to change than other organizational features of schools. Our primary focus than will be on those organizational features of schools which are readily manipulable at the school site.

Direct Effects

Eleven variables have direct effects on teacher engagement. These include two individual teacher variables (sex, years teaching at present school), three demographic characteristics of schools (student ability, school size, urbanicity), and six organizational features (orderly school environment, manageable teaching task, encouragement of innovation, teacher input into decision-making, sense of community, and collaboration).

Previous research supports the finding of a relationship between sex and level of engagement (Safilios-Rothschild, 1971; Biklen, 1985). Women's higher engagement has been attributed to two interconnected factors; women are thought to define career somewhat differently than males, and secondly, that the teaching act is a greater source of satisfaction for women than men. Proponents of both points of view argue that while teaching is a career of choice for women, it is regarded as merely a stepping stone to an administrative position for men.

The fact that years of experience in a teacher's present school contributes positively to engagement may have several possible explanations. It may be that teachers who have spent considerable time in one place feel more integrated into the culture of the school. Or perhaps, as Rosenholz (1986) suggests, the longer a teacher stays in the profession, the greater their personal investment and therefore

commitment. It may also be true that veteran teachers have learned to manipulate the bureaucracy to get the resources they need to teach effectively. A fourth possibility is that by knowing their way through channels, veteran teachers can devote more time and attention to teaching. Finally, it may happen that veteran teachers get the choice (most satisfying) teaching assignments or that engaged teachers are simply more likely to stay in teaching and/or remain at a particular school.

Urbanicity and school size influence teacher engagement, and these effects may, in fact, be inter-related. Being an urban school influences teacher engagement negatively, but large size influences engagement in a positive direction. To some extent, this finding is counter-intuitive and conflicts with previous research on teacher motivation (see Rosenholtz, 1986). Perhaps the most likely explanation for this finding is that once urbanicity is controlled for, larger schools offer more of the conditions (available resources, multiple programs, school/community partnerships) or features which facilitate engagement.

Perceived student ability has a major influence on teacher engagement independent of all other variables. Although not unanticipated, the importance of this finding can not be overestimated. Perceived teacher competence is frequently tied to the ability of the students they teach (Metz, 1986a, b). The "better" teachers are reputedly those whose students are bright, articulate, and active in

the school. The best students (and their parents) demand and get the "best" teachers. This becomes a self-fulfilling prophecy.

When a teacher's competence is assessed on the basis of student ability rather than teaching performance there is little reason for teachers to be highly engaged in their work. Neither quality nor routinized teaching will change a teacher's status among parents or colleagues. Furthermore, teachers of the less gifted probably receive little support for their efforts to provide quality instruction for those students regarded by many as less able, interested, or likely to learn.

But there is another way in which student ability affects teacher engagement. Teachers derive significant rewards from successful interactions with students (Lortie, 1973; McLaughlin, et al, 1986). Having difficult or low ability students to work with makes success more difficult and recognition more remote. Furthermore, teaching is attractive to many because it provides the teacher with opportunities for intellectual stimulation. Repetitive teaching toward low level competence seems unlikely to provide such stimulation. Why would a teacher work hard when the return is likely to be so little?

The importance of this variable suggests the need to think carefully about ways to alter the composition of the student body of certain schools or perhaps more importantly teacher perceptions of students' ability. There is ample evidence to suggest that teachers perceptions of student ability are constructed through teacher

interaction at the workplace (Rosenholtz, 1986). More will be said about this later.

Of all the variables which affect teacher engagement directly, orderly school environment has the largest effect (.27). This should come as no surprise since discipline is the issue most often raised by administrators and teachers in schools experiencing problems of low teacher morale (Andrew, et al, 1985).

In order to justify the expenditure of time and energy necessary to prepare and carry out a stimulating lesson, teachers must be assured that the lesson can be carried out with a minimum of disruption. Student tardiness and class cutting interfere with the conduct of the lesson at hand and make continuity difficult. Taking time to inform previously absent students about what they need to know from a previous days activity to understand the present activity runs the risk of boring the students in attendance both days. By the time both groups are ready to proceed, precious time has been lost (perhaps so much that the planned activity can no longer be accomplished) or the excitement and interest that might otherwise have lead to a successful outcome has diminished. Constant interruptions seem likely to lead to lower engagement.

Many argue that the principal or the administrative staff should act as a buffer, sheltering teachers from the many potential distractions and disturbances, allowing them to concentrate on the teaching task.

An orderly school environment goes beyond classroom discipline. Teachers need to know that their school regards education as its top priority. Tolerance for deviant behavior in the hallways while classes are going on, not only interferes with instruction, but conveys a message to both teachers and students that what goes on in classes is not important enough to warrant quiet and no interference. Hall behavior may also remind students that what goes on among students outside of class is more interesting and exciting (and perhaps has more bearing on their lives) than what goes on in class.

The second most powerful contributor to teacher engagement is sense of community. It is relatively easy to understand why sense of community is tied to a teacher's feeling of integration into staff culture, but sense of community probably also makes an important contribution to teachers' sense of efficacy and satisfaction, the expectations they hold for students, and their sense of control.

In most schools teachers are isolated from one another. Consequently teachers frequently lack both collegial support and intellectual stimulation. Communal relations among faculty may serve to both temper teacher reactions to the most difficult situations and bolster teacher confidence in their ability. Frank and honest communication among colleagues is likely to help teachers acquire perspective by reminding them that many teachers face similar difficulties, that it is the rare teacher who does all things well, and

that each teacher has ideas and strategies which their colleagues regard as worthwhile.

A sense of community is also likely to motivate teachers to do well because as part of a group their performance is scrutinized by colleagues who they trust and respect. Constructive criticism is not only permitted, but sought. Teachers can express frustration openly and seek advice from colleagues. Teachers help each other because they share a common mission.

The role of a sense of community in promoting teacher engagement goes beyond providing support for teachers struggling with difficult problems, however. Members of communities who err too frequently risk rejection. Each individual teacher's success is perceived as contributing to the success of the group. Teachers who are always in need of the groups assistance will not remain part of the community indefinitely. Because the support and respect of the group is valued, the teacher is motivated to teach well.

Furthermore, community members are expected to contribute to the group's well-being. To make a contribution, the teacher must develop expertise which can assist other teachers experiencing frustrations different from their own. Unfortunately, the data do not allow us to investigate these explanations further.

Teacher input into decision-making is a third powerful contributor to teacher engagement. Much recent literature has discussed the importance of empowering teachers (Lieberman and Miller, 1984; Andrew,

et al, 1985; Firestone and Wilson, 1986; Metz, 1986a; Rosenholtz, 1986; Bacharach, 1986). The vast majority of teachers have attended college at least four years; about 50% of the present teaching force have Master's degrees. Teachers are rich storehouses of information which are under-utilized by school administrators, and teachers know it. Teachers want to be treated like professionals and one of the key things that separate professionals from other workers is that professionals are able to use their judgement and expertise to bring about the successful completion of a task.

The problems schools face are complex and for the most part the solutions have not yet been found. Yet, in many schools, recipes and panaceas are imposed on teachers with little opportunity for input. Teachers resent not being allowed to participate in deliberations which lead to alterations in the teaching strategies they employ, the curriculum they teach, or the rules they are expected to enforce; especially when many of these changes may be perceived as arbitrary, unnecessary or inappropriate. When teachers are not consulted about issues affecting their work, issues which they feel they know the most about, they conclude that their work is not valued.

According to McLaughlin, et al (1986), "Incongruity between an individual's motivation and abilities and his or her conditions of work creates a situation structured for psychological failure. Many U.S. teachers, especially the most competent ones, show signs of this sense of failure. Teachers often attempt to minimize their feelings of

failure by acting in ways that are educationally counterproductive, such as: withdrawing emotionally from the classroom or becoming apathetic, placing increased value on material rewards, becoming hostile toward school officials, working for promotion to other positions that afford them better prospects, or leaving the profession altogether."

Encouragement of innovation also contributes significantly to teacher engagement. To encourage innovation is to encourage teachers to use their expertise and professional judgement to try something new and different. Encouragement of innovation is likely to contribute to engagement because it puts the responsibility for the success or failure of the experiment within the control of the teacher.

Teachers know that their innovation will succeed or fail as a result of their ability to pull together all that they know about students, teaching, and subject matter to construct a worthwhile educational experience. Further, teacher innovations guarantee that credit for that success or failure will be given to the person responsible for the innovation.

Where innovation is encouraged, teachers benefit from success as well as failure. Whereas a successful innovation may lead to greater self-confidence and satisfaction; a failed experiment may provide additional information about student behavior, the intricacies of certain instructional techniques, or the difficulty of certain content that make the next innovation less likely to fail.

For innovation to be encouraged within schools, a certain amount of failure must be expected and regarded as an opportunity for useful learning and professional development. When failure is followed by the opportunity to change practices significantly, the information obtained in the failed experiment can stimulate future engagement. Rosenholtz (1986) argues that teachers "confront new task challenges not just because they are interesting and exciting, but because their goal is to learn, to become more skilled and knowledgeable."

A manageable teaching assignment also contributes to teacher engagement. Teachers need to know that educationally worthwhile goals can be achieved. A statement by a teacher with six years experience (McLaughlin, et al, 1986) captures the dilemma many veteran teachers feel. "Things are set up these days so that teachers never feel they can do a good job. The classes are too large, the materials aren't there, and the students come to school with incredible needs that teachers can't meet. We are constantly pushed. We are constantly told by the superintendent that teachers have to do this, and we are constantly told by parents that teachers have to do that. Everyone expects the schools to take care of social problems. I think that schools could be a progressive force - but not with the resources they currently have. I feel angry; I feel depressed; I feel frustrated. It is a very difficult situation for the teachers who care."

Whether educational goals are established by the teacher or by others, the problem is the same. To teach students to write well, for

example, requires that teachers steadfastly monitor successive writing attempts; pointing out grammatical and spelling errors, suggesting revisions, provoking additional thought, and so on. Because the time a teacher can spend with any one student is inversely related to the number of students a teacher must see, class size can place constraints on a teacher's ability to teach students to write well. Larger proportions of low ability students who require even more time and attention, seem likely to further constrain the teacher's ability to be successful with all the students they teach. A recent NEA (Bacharach, 1986) report suggests that large numbers of teachers are experiencing problems finding adequate time, materials, and support to do their jobs as well as they would like.

Frequently administrators ask their better teachers to assume more and more responsibility (higher class loads, more committee assignments, etc.) while they avoid asking poorer or disgruntled teachers. Administrators who do this may risk lower engagement by forcing their most talented teachers to make choices about where they will direct their energies among several important responsibilities.

Individually teachers recognize the inter-relationship of class size, student ability, and course content and the impact any one of these variables can have on their ability to succeed with students. Whereas all classes might be made more manageable by reducing the number of students enrolled in any given class, some would argue that the need to reduce class size is most critical in those academic

classes populated by low ability or potentially disruptive students. In spite of this, teachers have sometimes been the staunchest opponents of differentiated teaching loads. Perhaps this can be attributed to staffing proposals which are perceived by teachers as reducing the workload of some, while increasing it for others, rather than adding staff and reducing the amount of work all teachers must do. Andrew, et al (1985) point out that inequity in teaching assignments can lead to low teacher morale.

Indirect Effects

Seven organizational features variables affect teacher engagement through one or more direct effect variables: staff recognition, collaboration, teachers helping one another, inservice specific to staff needs, staff development time, principal leadership, and administrative responsiveness.

Staff recognition contributes to teacher engagement indirectly through three of the direct effect variables: encouragement of innovation, teacher input into decision-making, and sense of community. These relationships seem reasonable and consistent with the explanations of the direct effects discussed earlier. To be meaningful, recognition cannot be given for routine or mundane performance. Thus, recognition, by definition, implies exemplary or innovative teaching. To be recognized suggests that innovation is encouraged. Similarly, recognition promotes innovation by making the time and energy teachers spend developing innovative curricula or

teaching strategies worthwhile. Lieberman and Miller (1981) suggest that rewards for trying something new are essential for school improvement.

Many teachers complain that they rarely get positive feedback from the administration (McLaughlin, et al, 1986). Recognition by administrators is important to teachers because it suggests that their efforts are valued and taken seriously. Although recognition does not actually alter the decision-making process within the school, the implied congruence between teacher and administrator goals may lead teachers to believe that they are influencing administrator decisions through their teaching behaviors, if not through their actual participation in the decision-making process.

Finally, recognition for a job (teaching) well done leads to an increased sense of community because recognition conveys the respect of that community for the individual and also validates the individuals contribution to the group. Engelking (1986) underscores the importance of peer praise to teacher job satisfaction.

In addition to a modest direct affect on teacher engagement, collaboration affects teacher engagement indirectly through encouragement of innovation and teacher input into decision-making. Working together with colleagues on lesson planning, curriculum development, program evaluation, or other collaborative work related to instruction is likely to facilitate engagement by providing teachers a source of new ideas that can be tried (McLaughlin, et al, 1986).

Moreover, collaborative work can remind teachers about how much they know about teaching and reassure them that many of the most difficult classroom problems are problems for other teachers too. The importance of teacher collaboration to overall school improvement is discussed at length in Little (1984) and Lieberman and Miller (1984).

Collaboration can lead teachers to believe that innovation is encouraged because teacher time is specifically allocated for collaboratively attacking problems of importance to teachers and to the school. Furthermore, collaboration leads teachers to feel an increased sense of input because by involving them in collaborative work, administrators are accessing teacher knowledge and experience and recognizing the contribution teachers can make to solving important instructional problems.

Teachers helping one another to improve teaching or solve an instructional or class management problem affects engagement through collaboration, input into decision-making, and sense of community. Teachers helping contributes to input into decision-making in much the same way as collaboration. Teachers helping, in fact, differs from collaboration only in the sense that it is less formal. This may explain both the greater impact on sense of community attributable to teachers helping and the lack of effect on teachers' perceptions of the degree to which innovation is encouraged within the school.

The fact that collaboration does not influence sense of community is somewhat surprising. Perhaps this, in addition to the relatively

modest effects on encouragement of innovation and input into decision-making described above, suggests that much formal collaborative activity is poorly structured by schools. Collaborative activity in which teachers are required to devote time to meaningless or trivial tasks may convey a minimal sense that innovation is encouraged and that teachers have some input, but seems unlikely to generate community since the task is neither sustained nor of great importance to large numbers of teachers. In may also happen that in certain contexts, formal collaboration serves to highlight conflicts between teachers. Informal teacher relationships (teachers helping one another), however, leads to collaboration, community, and input.

Inservice specific to the needs and concerns of the staff influences teacher engagement through teachers helping one another, encouragement of innovation, input into decision-making, and sense of community. By tailoring inservice to the specific needs and concerns of the staff, administrators stimulate teacher thought about problems they recognize as important. The inservice itself or the thinking teachers do as result of the inservice may result in new ideas and approaches to complex problems; conveying the message that innovation is encouraged.

By organizing inservice around teacher concerns, administrators are granting teachers input into decision-making. Inservice specific to teacher needs and concerns brings teachers together to think about and work on common problems. This, in turn, leads both to increased

incidence of teachers informally helping one another and a heightened sense of community.

Like inservice, providing for staff development time facilitates teacher engagement through administrator responsiveness, encouragement of innovation, input into decision-making, teachers helping one another, and collaboration. Staff development is most successful, according to Little (1984) when it "ensures collaboration adequate to produce shared understanding, requires collective participation in training and implementation, is focussed on crucial problems of curriculum and instruction, is conducted often enough and long enough to ensure progressive gains in knowledge, skill and confidence, and is congruent with and contributes to professional habits and norms of collegiality and experimentation."

The two variables with the strongest indirect affects underscore the importance of quality leadership in schools. Principal leadership contributes to teacher engagement indirectly through seven variables: orderly school environment, encouragement of innovation, teacher input into decision-making, sense of community, staff recognition, staff development time, and administrator responsiveness. Administrator responsiveness contributes to teacher engagement indirectly through orderly school environment, encouragement of innovation, teacher input into decision-making, staff recognition, and sense of community.

These relationships are among the strongest (6 of the 12 coefficients equal or exceed .21) and perhaps also the easiest to

understand. Many principals have considerable control over certain aspects of school organization. Efforts to create an orderly school environment, for example, must have the principals support in order to be effective. Frequently these efforts require the leadership of a strong, dynamic, but caring principal.

It is the administration of the school who determines whether innovation or conformity will be encouraged, whether staff efforts will be recognized or ignored, and whether teacher input will be solicited and considered in making school policy decisions. It is the principal who makes staff development time available and insures that it is used productively. Principal leadership can affect teacher sense of community, by communicating a vision, establishing common goals, or setting expectations which unite the staff. Lieberman and Miller (1981), among others, argue that the principal is the key change agent in the school.

Principal leadership and administrator responsiveness are closely associated (beta=.67). This can be explained by the fact that the principal is the administrator most immediately responsible to staff and therefore most likely to respond to staff needs and concerns. Administrator responsiveness contributes to the same five school features as principal leadership and the explanations already provided for principal leadership would seem to hold for administrator responsiveness as well.

Considering both variables tells us something that principal leadership alone would not. Although strong consistent principal leadership is likely to lead to greater teacher engagement, a strong, consistent, responsive principal is likely to generate even greater teacher engagement. Teachers believe that by being responsive, administrators are giving them input into decisions affecting school policy. Responsiveness can also be perceived as a form of recognition. Finally, responsiveness contributes to encouragement of innovation by taking the concern and the proposed innovation seriously and providing support for the innovation. Danley (1978), De Bevoise (1984), and Sergiovanni (1984) identify characteristics of principals with various leadership styles and attest to the importance of administrators being responsive to the needs and concerns of their teaching staffs.

A responsive principal more readily empowers teachers by conveying a sense of teachers' worth through attention to their concerns, recognition of the contribution teachers can make in determining the nature of school policy, and in generating interesting and innovative classroom strategies. A responsive principal recognizes teachers for a job well done by legitimating and supporting their efforts.

Facilitating Teacher Engagement

Before we can understand how the model might be used to enhance teacher engagement in schools, issues of specificity and effect size must be addressed. Knowing that orderly student environment contributes to teacher engagement is useful information, but the data

offer little guidance about what specific actions should be taken to create a more orderly environment. Similarly, the model suggests that giving teachers more input into decision-making is likely to result in a higher level of teacher engagement, but does not inform us about what governance structures facilitate the kind of input teachers believe is worthwhile. Nevertheless, practitioners and researchers alike can use this model as a starting point to suggest where to focus efforts to enhance teacher engagement.

How much are the direct effect variables likely to contribute to teacher engagement? The largest beta coefficient is .27 for orderly student environment. Since all of the variables (except sex and race) are entered as z-scores, this coefficient can be interpreted as follows: a one standard deviation change in teachers perceptions of the orderliness of the school environment will result in a .27 standard deviation change in teacher engagement.

This seems substantial, although the data cannot tell us how much this change might effect classroom practice. Nonetheless, it seems reasonable to assume that a more than one quarter of a standard deviation increase in teacher engagement is likely to have a positive effect on the school and on what transpires in classrooms. Other effects (e.g. collaboration (.04)) are much smaller and may have little or no impact in practice. It is important to note, too, that this statistical technique does not allow us to predict what might happen to

teacher engagement if all of the organizational features were altered in a positive direction.

According to the model, the impact of altering most of the organizational features with indirect relationships is likely to be low, but these coefficients should not be seen as estimates of potential impact. Because this is exploratory research undertaken in typical schools, we don't really know what the impact of modifying any of these features might be on teacher engagement if schools really pursued high levels of teacher engagement as a deliberate goal.

Secondly, although the model specifies effects independent of all other variables, there is good reason to believe that employing certain levers independently may not result in enhanced engagement. For example, if the decision-making structure of the school is altered to give teachers greater input, but students are no more orderly or teachers continue to struggle with what they regard as an unmanageable teaching assignment, it would be difficult to predict the likely impact on teacher engagement.

Figure 1 offers a portrait of what teachers regard as important in their work lives and what for them facilitates high levels of engagement in their work. This portrait suggests that teachers need to know that the skills they have can be productively exercised to accomplish worthwhile educational goals (see our previous discussion of orderly school environment, manageable teaching task, and perceived student ability). They need also to know that their knowledge and

professional competence is valued and will be utilized when decisions need to be made about the subjects they know best (see our discussion of teacher input into decision-making, administrator responsiveness, and encouragement of innovation). And finally, teachers need to know that they have the respect and support of others facing similar challenges (see our discussion of sense of community, collaboration, and staff recognition).

Used as a guide, the model might also represent a broad plan of action for schools wanting to increase the level of engagement of their teaching staffs. Although the data do not always suggest specific actions, a variety of interventions could be fashioned with the goal of making schools more orderly, placing greater emphasis on student achievement, sharing difficult teaching assignments among staff, supporting innovative curriculum work, providing for staff input into school decisions, facilitating greater collegial interaction, and so on.

Given the press for higher academic achievement for all students, the prospect of a significant shortage of qualified teachers (Hodgkinson, 1986), and changing demographics which would seem to increase the likelihood that teaching will become even more difficult in the near future (Metz, 1986a, b), schools can not afford to ignore the problem of low teacher engagement. Organizational features of schools which frustrate talented teachers to the point where they leave the profession or which result in complacency, low commitment, and

little enthusiasm among tenured staff must be changed if future educational goals are to be realized.

Endnotes

1.Using this z-score, the teaching practices of the most highly engaged teachers were compared with the teaching practices of the least engaged teachers. Our findings suggest that engaged teaching does make a difference.

Less engaged teachers spend more class time doing routine tasks and devote substantially more class time to controlling students. Less engaged teachers also report a higher percentage of students not attending during instruction. Less engaged teachers assign less homework and grade and return less of what is assigned. They report about a half day more of absence per year and are much more likely to agree with the statement, "The learning environment in this school is not conducive to school achievement for most students."

2.Unlike the questions which ask about individual teacher characteristics and school demographics, the questions used to represent various organizational features of schools (except staff development time and manageable teaching task) ask for teacher perceptions of their working conditions. Consequently, these variables must be understood to simultaneously represent teacher perceptions of their working conditions and the working conditions themselves.

This is not an unreasonable supposition, especially if we believe that teacher perceptions are grounded in reality and realize that organizational features (like teacher input into decision-making), which superficially appear to apply uniformly to an entire school, actually vary considerably by teacher and/or departments. Individual teachers might therefore assess the relative presence or absence of a particular organizational feature quite differently, even within the same school.

3.This model is not a true path model because the temporal causal ordering of the variables can not be determined from this data. The model should therefore be regarded as an exploratory device for identifying potential relationships between selected variables and teacher engagement.

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Table 1

Inter-Correlations for 7 Possible Engagement Dimensions

	1	2	3	4	5	6	7
1. Efficacy/Satisfaction	-	.29	.42	.31	.01	.06	.19
2. Integration into Staff Culture		-	.15	.16	.05	.01	.02
3. Expectations for Student Achievement			-	.23	.00	.02	.12
4. Sense of Control Over Classroom Practices				-	-.09	-.01	.08
5. Instructional Preparation Time					-	.28	.04
6. Time in Extended Role Contacts with Students						-	.11
7. Changes in Teaching Practices and Procedures							-

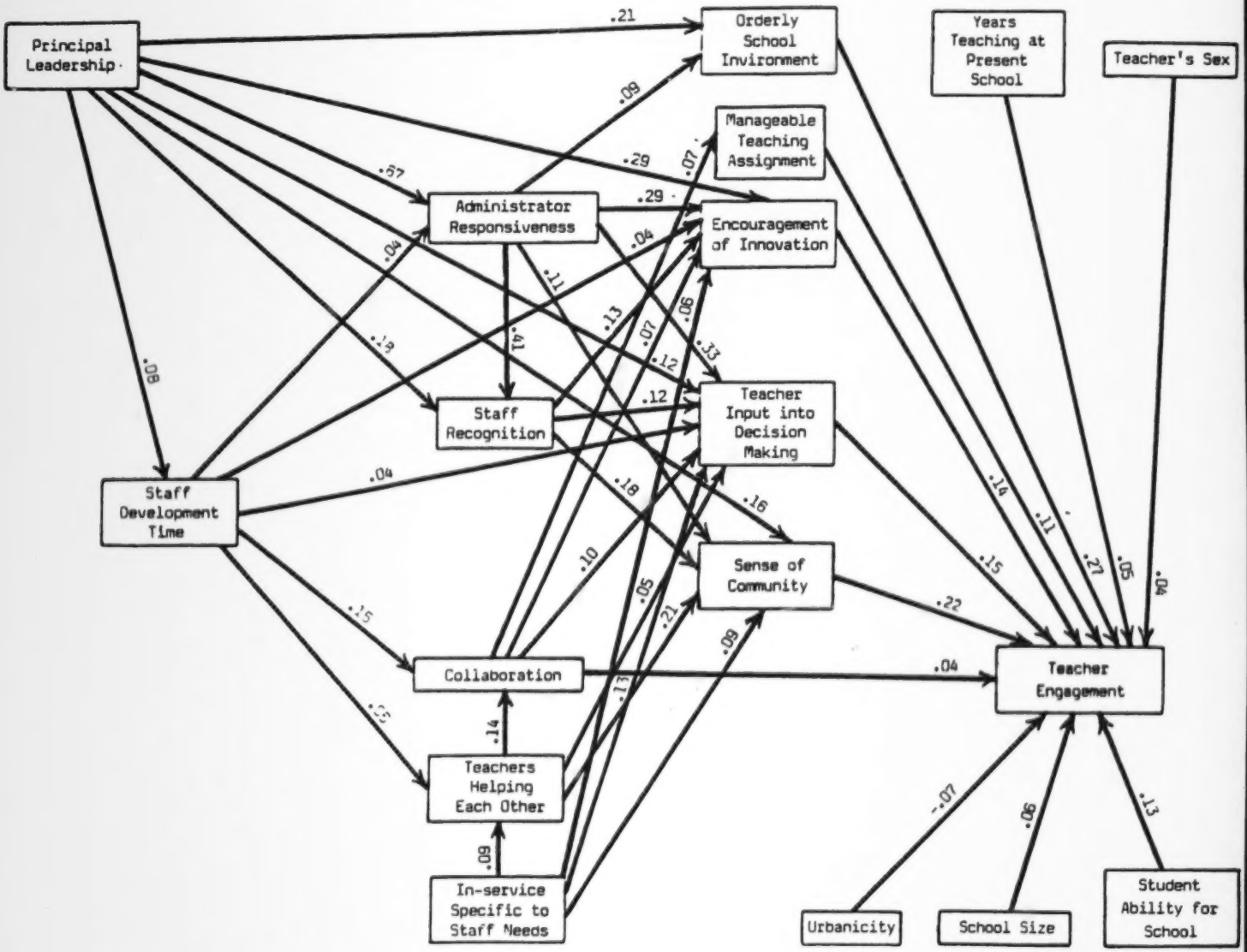

Figure 1. A model showing the relationship between selected individual teacher characteristics, school demographics, and organizational features of schools and teacher engagement.

Appendix A

Four Dimensions of Teacher Engagement
(All items from 1984 HSB Teacher Questionnaire)

1. Efficacy/Stratification alpha = .74

   T17. To what extent do you feel successful in providing the kind of education you would like to provide for most of your students?

   T19ff. I usually look forward to each working day at this school.

   T19ii. I sometimes feel it is a waste of time to try to do my best as a teacher.

   T32. How much of the time do you feel satisfied with your job in this school?

2. Integration into Staff Culture alpha = .52

   T19c. I make a conscious effort to coordinate the content of my courses with other teachers.

   T19kk. I am familiar with the content and specific goals of the courses taught by other teachers in my department.

   T19e. Most of my colleagues share my beliefs and values about what the central mission of the school should be.

   T19v. I feel accepted and respected as a colleague by most staff members.

3. Expectations for Student Achievement alpha = .51

   T19l. Many of the students I teach are not capable of learning the material I am supposed to teach them.

   T19cc. The attitudes and habits my students bring to my class greatly reduce their chances for academic success.

4. Sense of Control Over Classroom Practices alpha = .74

   T02. How much control do you feel you have in your classroom over each of the following areas of your planning and teaching?

   a. Selecting textbooks and other instructional materials.

   b. Selecting content, topics, and skills to be taught.

   c. Selecting teaching techniques.

   d. Disciplining students.

   e. Determining the amount of homework to be assigned.

Appendix B

Independent Variables
(Items from 1984 HSB Teacher Questionnaire
and 1982 HSB School Questionnaire as indicated)

Individual Teacher Characteristics

Teachers' Sex

T37. What is your sex?

Teacher Race

T39. What is your race?

Total Years Teaching

T40. Prior to this year, how many years of experience have you had as a full-time teacher in this and other schools?

Years Teaching at Present School

T401. Prior to this year, how many years of experience have you had as a full-time teacher in this school?

Demographic Characteristics of Schools

Student Ability for School

T09. How would you rate the average academic ability of students when they enter this school?

School Size

SB002A* Total High School Membership

Urbanization

Schurb* School Urbanization Code (1 = Urban, 2 = Suburban 3 = Rural)

Race of School-Percent white

SB0095S* Approximately what percentage of your current high school students are members of the following groups? White, not Hispanic origin.

% Disadvantaged

SB037* About what percentage of the students in your high school are classified as disadvantaged?

*Items taken from High School and Beyond First Follow-up (1982) School Questionnaire.

Organizational Features of Schools Directly Affecting Teacher Engagement

Orderly School Environment alpha = .63

T19G. The level of student misbehavior and/or drug or alcohol use in this school interferes with my teaching.

T19p. The amount of student tardiness and class cutting in this school interferes with my teaching.

Teacher Input into Decision-Making alpha = .76

T01. How much influence do teachers have over school policy in each of the areas below?

a. Determining student behavior codes.

b. Determining the content of in-service programs.

c. setting policy on grouping students in classes by ability.

d. Establishing the school curriculum.

T19q. Staff are involved in making decision that affect them.

T19y. The principal seldom consults with staff members before he/she makes decision that affect us.

Sense of Community alpha = .72

T19d. You can count on most staff members to help out anywhere, anytime--even though it may not be part of their official assignment.

T19dd. There is a great deal of cooperative effort among staff members.

T19gg. This school seems like a big family; everyone is so close and cordial.

Encouragement of Innovation alpha = .67

T19t. In this school I am encouraged to experiment with my teaching.

T19jj. The principal is interested in innovation and new ideas.

Manageable Teaching Assignment

T10. Compare the academic ability of the students you have taught since the beginning of the current school year to the average for the school year. What percentage of your students have been above the school average?

T11. What is the average size of the classes you have taught since the beginning of the current school year?

T43. What subject areas have you taught in the last four years?

a. Most frequently taught course

Organizational Feature of Schools Indirectly Affecting Teacher Engagement

Principal Leadership alpha = .85

T19i. The principal does a poor job of getting resources for this school.

T19j. The principal deals effectively with pressures from outside the school that might interfere with my teaching.

T19k. The principal sets priorities, makes plans, and sees that they are carried out.

T19r. The principal knows what kind of school he/she wants and has communicated it to the staff.

T19hh. The principal lets staff members know what is expected of them.

Administrator Responsiveness alpha = .79

T03. To what extent has each of the following helped you improve your teaching or solve on instructional or class management problems?

a. Principal or school head.

b. Other school level administrators.

T19s. This school's administration knows the problems faced by the staff.

T19w. The school administration's behavior toward the staff is supportive and encouraging.

Staff Recognition

T19o. Staff members are recognized for a job well done.

Staff Development Time

T04. Since the beginning of the current school year, how many half-days have you spent in in-service programs that were held for. . .

a. The whole staff together?

b. A smaller group (e.g., as a department, staff in a special program or a group of volunteers)?

In-Service Specific to Staff Needs

T19mm. Most of the in-service programs I attended this school year dealt with issues specific to the needs and concerns of this school's students or staff.

Teacher Helping Each Other

T03d. To what extent have other teachers helped you improve your teaching or solve an instructional or class management problem?

Collaboration

T13. Since the beginning of the current school year, how much time per month (on the average) have you spent meeting with other teachers on lesson planning, curriculum development, guidance and counseling, evaluation of programs, or other collaborative work related to instruction?